

REMARKS

In response to the Office Action dated July 10, 2003, Applicants respectfully request reconsideration.

Claims 5-6 and 23 stand objected to as being dependent upon a rejected base claim but would be allowable if amended into independent form including the base claim and any intervening claims. As discussed below, Applicant respectfully asserts that the respective base independent claims, 1 and 17, are allowable and thus claims 5-6 and 23 remain in dependent form.

Claims 1-4, 7-22, and 24-61 stand rejected under 35 U.S.C. 102(e) in view of U.S. Patent No. 6,466,096 (DeVito). Applicant respectfully asserts that the claims are allowable in view of DeVito.

Independent claim 1, and its dependent claims, are patentable over DeVito. Claim 1 recites a phase-locked loop (PLL) that includes an apparatus that is configured to provide charge to a voltage-controlled oscillator (VCO) during at least a portion of an inactive time of the PLL in response to a control signal such that a tuning voltage of a VCO input is approximately at a VCO-lock voltage at a start of an active time of the PLL, where during the inactive time of the PLL at least one component of the PLL for locking to a frequency is inoperative. DeVito discusses adjusting a tuning voltage of a VCO based upon an output signal frequency while the PLL is active, but does not teach disclose or suggest providing charge to a VCO during at least a portion of an inactive time of the PLL such that a VCO's tuning voltage at the start of an active time is approximately at a VCO lock voltage. For at least this reason, DeVito does not anticipate or render obvious claim 1, or claims 2-4 and 7-16 that depend directly or indirectly from claim 1.

Independent claim 17, and its dependent claims, are also patentable over DeVito. Claim 17 recites a method that includes determining a difference between a VCO-lock voltage and a tuning voltage approximately at an activation time of a PLL. DeVito discusses adjusting an output clock signal based upon an initial output signal and a reference signal (Column 6, lines 51-61), but does not teach, disclose, or suggest determining a tuning voltage, or anything related to it, at approximately an activation time of a PLL. Further, claim 17 recites providing charge to a VCO during at least a portion of a deactivation time of the PLL and in an amount depending

upon the difference between the VCO-lock voltage and the tuning voltage approximately at the activation time to affect the tuning voltage of a VCO. DeVito discusses providing voltage to a VCO during an active time of a PLL, but does not teach, disclose, or suggest providing charge to a VCO as recited. For at least these reasons, independent claim 17, and claims 18-34 that depend directly or indirectly from claim 17, are not anticipated or rendered obvious by DeVito.

Independent claim 35, and its dependent claims, are also patentable over DeVito. Claim 35 recites a PLL that includes means for determining an indication of a difference between a VCO-lock voltage and a tuning voltage approximately at an activation time of a PLL. DeVito discusses adjusting an output clock signal based upon an initial output signal and a reference signal (Column 6, lines 51-61), but does not teach, disclose, or suggest determining a tuning voltage, or anything related to it, at approximately an activation time of a PLL. Further, claim 35 recites means for providing charge to a VCO during at least a portion of a deactivation time of the PLL and in an amount depending upon the difference between the VCO-lock voltage and the tuning voltage approximately at the activation time to affect the tuning voltage of a VCO. DeVito discusses providing voltage to a VCO during an active time of a PLL, but does not teach, disclose, or suggest providing charge to a VCO as recited. For at least these reasons, independent claim 35, and claims 36-44 that depend directly or indirectly from claim 35, are not anticipated or rendered obvious by DeVito.

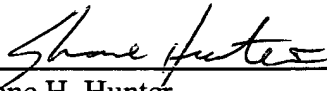
Independent claim 45, and its dependent claims, are also patentable over DeVito. Claim 45 recites a telephone that includes a receiver that includes a PLL. The PLL includes a charge supply that is configured to provide charge to a VCO during a deactivate time period of the PLL to cause a tuning voltage of the VCO to be approximately equal to a VCO-lock voltage at a beginning of an active time period of the PLL, where during the deactivated time period of the PLL at least one component of the PLL for locking to a frequency is inoperative. DeVito discusses adjusting a tuning voltage of a VCO based upon an output signal frequency while the PLL is active, but does not teach disclose or suggest providing charge to a VCO during a deactivated time period of the PLL such that a VCO's tuning voltage at the beginning of an active time period is approximately at a VCO lock voltage. For at least this reason, DeVito does not anticipate or render obvious claim 45, or claims 46-56 that depend directly or indirectly from claim 45.

Independent claim 57, and its dependent claims, are also patentable over DeVito. Claim 57 recites a method that includes receiving indicia of initial charge to provide by the charge pump to cause a tuning voltage of a VCO to become at least approximately equal to a VCO-lock voltage from a deactivation steady state of a PLL system, the tuning voltage of the VCO being at the VCO-lock voltage when the PLL system is locked to a frequency. The method also includes causing a charge pump of the PLL system to provide the initial charge while at least one component of the PLL system for locking to a frequency is inoperative. DeVito discusses adjusting a tuning voltage of a VCO based upon an output signal frequency while the PLL is active, but does not teach disclose or suggest providing charge to a VCO while at least one component of a PLL for locking to a frequency is inoperative. For at least this reason, DeVito does not anticipate or render obvious claim 57, or claims 58-61 that depend directly from claim 57.

Further, Applicant respectfully asserts that numerous dependent claims recite additional features that are not taught, disclosed, or suggested by DeVito. For example, at least claims 7, 8, 11, 18, 19, 21, 22, 24-34, 36-38, 41, 42, 46, 47, 49, 50, 53-56, 58, and 59 recite features that are patentable over DeVito.

Applicant has added new claims 62-64. These claims depend indirectly from independent claims 1, 17, and 35, respectively, and are thus patentable for at least the reasons discussed above. No new matter is introduced by these claims.

Based on the foregoing, this application is believed to be in allowable condition, and a notice to that effect is respectfully requested. The Examiner is invited to call the Applicants' Attorney at the number provided below with any questions.


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